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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

TRUONG, CAM Y T

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 09/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/998,682

Applicant(s)

FERRARI ET AL.

Examiner

Cam Y T. Truong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 47-64 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 47-64 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant has canceled claims 1-46 and added claims 47-64 in the amendment filed on 7/22/2005.

Claim Objections

2. Claims 47 and 50 are objected to because of the following informalities:

The words "the set of materials" on page 2, lines 5; page 3, lines 6 is unclear whether they are products or documents. Applicant should give the meaning of "the set of materials".

Examiner does not know what are "the characterizes of the first attribute and the characterizes of the second attributes" in page 2, lines 13-16; page 3, lines 14-18. Applicant should give the meaning of "the characterizes of the first attribute and the characterizes of the second attributes"

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 47 and 50 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claimed limitation "the first attribute-value pair describes all of the materials corresponding to the responsive navigation state and does not describe all the materials that the first attribute characterizes" in page 2, lines 12-14; and page 3, lines 13-15 is

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unclear limitation whether the first attribute-value pair describes and does not describe; thus applicant should point out and distinctly this claimed limitation subject matter which applicant regards as the claimed invention.

The claimed limitation "the second attribute-value pair describes all of the materials corresponding to the responsive navigation state and does not describe all the materials that the second attribute characterizes" in page 2, lines 15-17; and page 3, lines 16-18 is unclear limitation whether the first attribute-value pair describes and does not describe; thus applicant should point out and distinctly this claimed limitation subject matter which applicant regards as the claimed invention.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claim 47-52, 57-58, 60-62 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam et al (or hereinafter "Subramaniam") (US 6763351) in view of Yahoo! (<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>).

As to claim 47, Subramaniam teaches the claimed limitations:

"storing in a data structure a plurality of attribute-value pairs associated with the materials, wherein each of a plurality of values has an association with at least one of a plurality of attributes characterizing the materials" as (col. 16, lines 1-10);

"the particular expression including at least a conjunction of a first attribute-value pair having a first attribute and a second attribute-value pair having a second attribute" as (fig. 31, col. 16, lines 15, lines 1-12; col. 16, lines 1-25).

Subramaniam does not explicitly teach the claimed limitation

"in response to a free-text query, computing dynamically at run-time a responsive navigation state using the data structure, wherein: the responsive navigation state corresponds to a particular expression that represents a multi-term interpretation of the free-text query, the first attribute-value pair describes all of the materials corresponding to the responsive navigation state and does not describe all the materials that the first attribute characterizes; the second attribute-value pair does not describe all the materials that the second attribute characterizes; the first attribute-value pair and the second attribute-value pair are mutually incomparable". Yahoo teaches the first attribute-value pair such as Art History describes documents corresponding the Directory>Arts and the second attribute-value pair such as Arts Therapy describes all of documents corresponding the navigation state Directory>Art. The Art History and Arts Therapy are mutually incomparable (Exhibit I&II).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Yahoo's teaching of the first attribute-value pair such as Art History describes documents corresponding the Directory>Arts and the second attribute-value pair such as Arts Therapy describes all of documents corresponding the navigation state Directory>Art. The Art History and Arts Therapy are mutually incomparable to Subramaniam's system in order to specify a query for reducing the

chances of missing relevant documents and to support query expansion, indices on words related by lexical semantics and syntactical co-occurrence need to be maintained.

As to claim 48, Subramaniam and Yahoo! teach all the claimed limitation subject matters as discussed in claim 47, Yahoo! further teaches the claimed limitation "wherein the multi-term interpretation of the free-text query is minimal" as (Yahoo!, Exhibit II).

As to claim 49, Subramaniam teaches the claimed limitation "wherein the first attribute is different from the second attribute" as (fig. 27, col. 16, lines 1-10).

As to claim 50, Subramaniam teaches the claimed limitations:

"provide a search interface including a free-text search tool for accepting free-text queries" as (fig. 27);

" wherein each of a plurality of values has an association with at least one of a plurality of attributes characterizing the materials, and wherein the attribute-value pairs are accessed from a data structure" as (fig. 27, col. 16, lines 1-25);

"includes at least a conjunction of a first attribute- value pair having a first attribute and a second attribute-value pair having a second attribute" as (fig. 27).

Subramaniam does not explicitly teach the claimed limitation

"compute dynamically, in response to a free-text query, a navigation state that

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corresponds to a particular expression of attribute- value pairs associated with the materials, wherein a first dynamically computed navigation state corresponds to a multi-term interpretation of a first received free-text query, wherein: the first attribute-value pair describes all of the materials corresponding to the responsive navigation state and does not describe all the materials that the first attribute characterizes; the second attribute- value pair describes all of the materials corresponding to the responsive navigation state and does not describe all the materials that the second attribute characterizes; and the first attribute-value pair and the second attribute-value pair are mutually incomparable”.

Yahoo teaches the first attribute-value pair such as Art History describes documents corresponding the Directory>Arts and the second attribute-value pair such as Arts Therapy describes all of documents corresponding the navigation state Directory>Art. The Art History and Arts Therapy are mutually incomparable (Exhibit I&II).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Yahoo's teaching of the first attribute-value pair such as Art History describes documents corresponding the Directory>Arts and the second attribute-value pair such as Arts Therapy describes all of documents corresponding the navigation state Directory>Art. The Art History and Arts Therapy are mutually incomparable to Subramaniam's system in order to specify a query for reducing the chances of missing relevant documents and to support query expansion, indices on

words related by lexical semantics and syntactical co-occurrence need to be maintained.

As to claim 51, Subramaniam and Yahoo! teach all the claimed limitation subject matters as discussed in claim 50, Yahoo! further teaches the claimed limitation "wherein a second dynamically computed navigation state corresponds to a second received free-text query and includes only one attribute-value pair" as (Exhibit I&II).

As to claim 52, Subramaniam and Yahoo! teach all the claimed limitation subject matters as discussed in claim 50, Yahoo! further teaches the claimed limitation "wherein a second dynamically computed navigation state corresponds to a second received free-text query and includes a disjunction of a first attribute-value pair and a second attribute-value pair" as (Exhibit I&II).

As to claim 57, Subramaniam teaches the claimed limitation "wherein the search interface supports the specification of delimited phrases" as (figs. 25-27).

As to claim 58, Subramaniam and Yahoo! teaches all the claimed limitation subject matters as discussed in claim 50, Yahoo! Further teaches "wherein the search interface supports constraining a search to a subset of materials corresponding to a current navigation state wherein the free-text query is accepted" as (Exhibit I&II).

As to claim 60, Subramaniam teaches the claimed limitation "wherein the search interface includes a full-text search tool for searching the set of material" as (figs. 25-27).

As to claim 61, Subramaniam and Yahoo! teaches all the claimed limitation subject matters as discussed in claim 50, Yahoo! Further teaches "wherein the search interface provides a display of a set of search results for a query, the set of search results including one or more multi-term interpretations when the dynamically-computed navigation state corresponds to a multi-term interpretation of the query" as (Exhibit, I, V&VI).

As to claim 62, Subramaniam and Yahoo! teaches all the claimed limitation subject matters as discussed in claim 61, Yahoo! Further teaches "wherein the set of search results includes navigation options to each navigation state corresponding to the one or more multi-term interpretations" as (Exhibit I&VI).

As to claim 64, Subramaniam and Yahoo! teaches all the claimed limitation subject matters as discussed in claim 50, Yahoo! Further teaches the claimed limitation "instructions for causing the computer to provide a navigation interface, the navigation interface including a guided navigation tool providing a set of navigation options from a current navigation state to one or more other navigation states, each navigation option

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providing a direct path to one of the one or more other navigation states” as (Exhibit I&VI).

7. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam in view of Yahoo!

(<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>) and further in view of Vora et al (or hereinafter “Vora”) (USP 5819273).

As to claim 53, “wherein the search interface ignores stop words in the free-text query”. Vora teaches the users search request was the phrase the law in Shakespeare. It will be appreciated that the words the and in are considered stop words and matches to these words which are too prevalent will not be displayed; in effect the system ignores stop words. Thus, the search has two criteria which are treated alternatively such that any document having any one of the two words law, Shakespeare will be a match, and the system will retrieve the document assuming a minimum ranking is satisfied and the maximum number of returns is not exceeded as described above and the date restriction is satisfied (fig. 4B).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Vora’s teaching of ignoring stop words to Subramaniam’s system and Yahoo’s system in order to save time for searching a record.

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8. Claim 54 is rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam in view of Yahoo!

(<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>) and further in view of Li (USP 6480843).

As to claim 54, Subramaniam and Yahoo! teach all the claimed limitation subject matters as discussed in claims 1 and 18, except the claimed limitation "wherein the search interface treats syntactically related words as equivalent". Li teaches intersection of the document lists from the two rows forms the answer to the query. Clearly, this approach to IR supports only exact matches and will fail to retrieve relevant documents containing terms with similar meanings such as automobile dealer car showroom or automobile showroom Query expansion can be used in conjunction with a special utility to expand the query from car and dealer to (car or automobile and dealer or showroom) (fig. 2b).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Li's teaching of intersection of the document lists from the two rows forms the answer to the query. Clearly, this approach to IR supports only exact matches and will fail to retrieve relevant documents containing terms with similar meanings such as automobile dealer car showroom or automobile showroom Query expansion can be used in conjunction with a special utility to expand the query from car and dealer to (car or automobile and dealer or showroom) to Subramaniam's system and Yahoo!'s system in order to reduce the chances of missing relevant documents.

54. (previously presented) The computer program product of claim 50, wherein the

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search interface treats syntactically related words as equivalent.

9. Claim 55 is rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam in view of Yahoo!

(<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>) and further in view of Sanfilippo (USP 6260008).

As to claim 55, Subramaniam and Yahoo! teach all the claimed limitation subject matters as discussed in claims 1 and 18, except the claimed limitation "wherein the search interface treats semantically related words as equivalent". Sanfilippo teaches two words are synonymically related or semantically similar if they have equivalent meaning. This means that if two words have equivalent meaning, they are related to each other. When these two words are related to each other and have same meaning. Definitely, they are treated as equivalent (col. 4, lines 20-35).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Sanfilippo's teaching of two words are synonymically related or semantically similar if they have equivalent meaning to Subramaniam's system and Yahoo's system in order to specify a query for reducing the chances of missing relevant documents and to support query expansion, indices on words related by lexical semantics and syntactical co-occurrence need to be maintained.

10. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam in view of Yahoo!

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(<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>) and further in view of Schabes et al (or hereinafter "Schabes").

As to claim 56, Subramaniam and Yahoo! teach all the claimed limitation subject matters as discussed in claims 9 and 26, except the claimed limitation "wherein the search interface performs automatic spelling corrections. Schabes teaches automatically correcting misspelled words without significant user intervention (col. 2, lines 5-10).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Schabes's teaching of automatically correcting misspelled words without significant user intervention in order to eliminate user's input and to correct misspelled words quickly.

11. Claim 59 is rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam in view of Yahoo!

(<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>) and further in view of Feng (USP 6483523).

As to claim 59, Subramaniam and Yahoo! teach all the claimed limitation subject matters as discussed in claim 1, except the claimed limitation "including a profile for each of the materials in the set of materials, the profile including descriptive information, the free-text search tool enabling searching the descriptive information in the profiles".

Feng teaches searching personal profile via a browser interface (figs. 3&4).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Feng's teaching of searching personal profile via a browser interface to Subramaniam's system and Yahoo's system in order to retrieve stored personal profiles to all users.

12. Claim 63 rejected under 35 U.S.C. 103(a) as being unpatentable over Subramaniam in view of Yahoo! (<http://web.archive.org/web/19991116151216/http://www4.yahoo.com>) and further in view of Jacobson et al (or hereinafter "Jacobson") (USP 6167397).

As to claim 63, Subramaniam and Yahoo! teach all the claimed limitation subject matters as discussed in claim 50, except the claimed limitation "further including a first inverted index relating words to attribute-value pairs and a second inverted index relating attribute-value pairs to materials". Jacobson teaches the term-position inverted index is associated with document pairs (col. 4, lines 10-35). The inverted index II is associated with document pairs (col. 3, lines 30-40).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Jacobson's teaching of the term-position inverted index and the inverted index II are associated with document pairs to Subramaniam's system and Yahoo!'s system in order to find split matches across structured and unstructured document and to rank paired documents in order again relying on the concept of the diversity of matches of documents in the cluster to the query keywords.

Conclusion

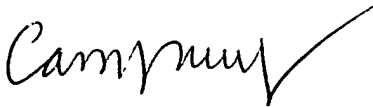
13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure
Rivette et al (US 6339767)

Contact Information

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cam Y T Truong whose telephone number is (571) 272-4042. The examiner can normally be reached on Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Patent Examiner
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